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IS 4422 (1985): willow clefts for cricket bats [CED 9: Timber and Timber Stores]



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IS : 4422 - 1985

Indian Standard
SPECIFICATION FOR
WILLOW CLEFTS FOR CRICKET BATS
(*First Revision*)

UDC 674·031·623·22 : 674·038·3 : 685·635·84



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INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Indian Standard

SPECIFICATION FOR WILLOW CLEFTS FOR CRICKET BATS (*First Revision*)

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Indian Standard

SPECIFICATION FOR WILLOW CLEFTS FOR CRICKET BATS (*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 28 February 1985, after the draft finalized by the Timber Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 The supply of willow clefts used for cricket bats is of great economic and technical importance for the sports goods industry. This standard was first published in 1967 with a view to provide guidance to the suppliers and purchasers in regard to the requirements for willow clefts suitable for cricket bats. With the publication of IS : 828-1979* need was felt to revise this standard. As such this revision has been taken up wherein, all species of willow permitted in IS : 828-1979* have been included and mechanical strength requirements of willow clefts have been modified.

0.3 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960†. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard lays down the requirements of willow clefts for use in the manufacture of cricket bats.

2. TERMINOLOGY

2.1 For the purpose of this standard, the definitions given in IS : 707-1976‡ shall apply.

*Specification for cricket bats (*second revision*).

†Rules for rounding off numerical values (*revised*).

‡Glossary of terms applicable to timber technology and utilization (*second revision*).

3. SPECIES OF TIMBER

3.1 The following species of timber shall be used:

<i>Botanical Name</i>	<i>Trade Name</i>	<i>Abbreviated Symbol</i>
Salix spp.	Willow	WIL

4. GENERAL REQUIREMENTS

4.1 Seasoning — The cleft shall be seasoned according to IS : 1141-1973*.

NOTE — The clefts are generally air seasoned.

4.2 Moisture Content — The moisture content of the cleft shall be not less than 8 percent and not more than 12 percent. Moisture content shall be determined in accordance with 4 of IS : 1708-1969†. The specimen used for determination of moisture content shall be a disc of thickness 2.5 cm taken at least 10 cm away from the ends of the clefts.

4.3 Density — The density of the timber at 12 percent moisture content shall not be less than 400 kg/m³ and not more than 550 kg/m³.

4.3.1 For moisture content below 12 percent, the value of density specified in 4.3 shall be computed by decreasing the same at the rate of 2 kg/m³ for each 1 percent decrease in moisture content from 12 percent.

4.4 Straightness of Grains — The clefts shall be smooth and of straight grain. The maximum inclination of the grain, spiral or diagonal to the length of the clefts shall not exceed 1 in 20.

4.5 Size — The length of clefts shall be about 70 cm. However, smaller sizes may also be accepted for small size bats. The clefts shall have an approximately triangular cross-section with base about 12.5 cm and the other sides about 10 cm each or they may be roughly semi-circular with base width of about 12.5 cm.

4.6 Defects — Clefts shall be free from sapwood, gum, veins, spongy heart or other forms of rot, shakes and splits, loose grain gelatinous fibres, compression wood and pitch pockets.

4.6.1 Occasional pin holes and fine drying checks are, however, permissible.

4.6.2 No knot shall be permitted on the face and the edges of the cleft. Knots up to 15 mm may be permitted on the back of the cleft provided they are not very near the edge. Knots in clusters are also not permitted.

*Code of practice for seasoning of timber (*first revision*).

†Methods of testing small clear specimens of timber (*first revision*).

4.7 Ring Width — The width of the growth rings on the cross-section shall be between 3 and 8 mm.

5. MECHANICAL STRENGTH REQUIREMENTS

5.1 The mechanical strength requirements of willow wood for the clefts shall not be less than the values specified in Table 1. Mechanical properties given in Table 1 shall be determined in accordance with IS : 1708-1969*.

TABLE 1 MECHANICAL STRENGTH REQUIREMENTS OF WILLOW WOOD FOR THE CLEFTS

SL No.	CHARACTERISTIC	STRENGTH VALUE
i)	Fibre stress (FS) at limit of proportionality (LP)	23 N/mm ²
ii)	Equivalent fibre stress at maximum load (modulus of rupture)	49 N/mm ²
iii)	Modulus of elasticity	44×10^3 N/mm ²
iv)	Work up to limit of proportionality	0.6×10^{-2} N/mm ³
v)	Hardness radius or tangential (Indentation test)	2 500 N
vi)	Toughness or brittleness (Izod test)	150 mm/N

6. MARKING

6.1 Each willow cleft shall be marked in a suitable manner with the manufacturer's identification mark or initials.

6.1.1 Each willow cleft may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Methods of testing small clear specimens of timber (first revision).

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